

18. (Twice Amended) A ceramic dispersoid in metal product, comprising:

(a) a matrix metal of aluminum and

(b) a uniform distribution of finely sized metal carbide particles

having an average particle size of less than about 0.3 microns, said finely sized metal carbide particles selected from the group consisting of Sc, Hf, Nb, Mo, and V and said finely sized metal carbide particles formed and dispersed in-situ in said metal matrix.

19. (Amended) The ceramic dispersoid in metal product of claim 18 wherein said finely sized ceramic particles are formed by the process of:

(a) providing a molten composition comprising a matrix liquid of aluminum or aluminum alloy metal and at least one of said carbide-forming elements;

(b) providing a chloride salt containing carbon particles, wherein said salt comprises NaCl and KCl in a weight/weight ratio within the range of about 0.8-1.2 and of $MgCl_2$ and $CaCl_2$ in amounts comprising up to about 5-10% by weight of the salt mixture; and

(c) reacting said chloride salt containing carbon particles in said molten aluminum alloy by vigorously stirring said aluminum alloy and said chloride salt containing carbon particles to form a mixture of said molten metal liquid in contact with a portion of said carbon particles at an elevated temperature above the liquidus of the aluminum alloy to form a unagglomerated distribution of finely sized ceramic phase particles having an average particle diameter of less than about 0.3 microns formed and dispersed in-situ in an aluminum metal matrix.